

2003 KINDERGARTEN RETROSPECTIVE SURVEY REPORT
DEPARTMENT OF HEALTH SERVICES, IMMUNIZATION BRANCH
October 1, 2003

Introduction

The annual kindergarten retrospective survey (KRS) provides state and regional estimates of vaccination coverage among kindergarten children as of their second birthday. The information obtained from the KRS is invaluable as we continue to work toward the Healthy People 2010 goal of 90% coverage for all universally recommended vaccines among children 19-35 months of age. This report presents KRS findings for 2003, and is based largely on children born in 1997.

Methodology and Participants

The 2003 KRS was conducted in 3% of the state's kindergartens in concurrence with the 2003 Selective Review (SR). Demographic information and immunization dates were extracted from every sixth school immunization record (blue card) from each of the 218 kindergartens participating in the SR. There were 8 children with permanent medical exemptions (PMEs) and 46 children with personal belief exemptions (PBEs) in the sample.

Results and Discussion

The results indicate that immunization coverage among California children is comparable to previous years. This year, the coverage level of the 4:3:1 vaccine series¹ among kindergarteners at 24 months of age was 71.4%. For comparison, the 4:3:1 series coverage level at 24 months of age was 71.9% in 2002 and 70.8% in 2001. The slight changes in coverage level are not statistically significant, meaning that 4:3:1 coverage levels are holding steady at the current level.

Immunization coverage levels at 24 months for hepatitis B (82.7%), *Haemophilus influenzae* type b (Hib: 88.2%), and varicella (64.6%) vaccines have significantly increased since last year, while other vaccine coverage levels have remained stable (Table 1).

As of July 1, 2001, one dose of varicella (chickenpox) vaccine or physician-documented disease and/or immunity was required for entry into childcare and kindergarten. This is the second cohort of kindergarten students who were subject to this requirement. Although immunization coverage with one dose of varicella vaccine was only 64.6% at 24 months of age, it increased to 96.0% by kindergarten entry.

¹ 4 DTP/DTaP, 3 Polio, and 1 measles-containing vaccine (MCV)

For African-American children, 4:3:1 vaccination coverage in 2003 is significantly lower than other race/ethnicity groups (Table 2). Furthermore, coverage is lower at each age checkpoint when compared with other race/ethnicity groups (Table 9). This is a serious and persistent disparity in immunization coverage that warrants further investigation. Differences in immunization coverage among other race/ethnicity groups are not statistically significant.

Differences in immunization coverage across regions are not significant. Table 3 shows that coverage of the 4:3:1 vaccine series among kindergarteners at 24 months of age remains similar to previous years for most regions. The percent of kindergarteners up to date at various age checkpoints in the 2003 KRS also remains similar to previous years (Table 4).

Comparisons with the equivalent year in the National Immunization Survey (NIS) parallel the results of the KRS (Table 5). The 2003 KRS cohort was approximately 2 years old in 1999, so the 1999 NIS California cohort is the appropriate comparison group. Coverage level of the 4:3:1 series is 78.3% (± 3.5) for the 1999 NIS, compared to 76.6% (± 1.7) in the same age group from the 2003 KRS. For 4:3:1 coverage levels, the KRS and NIS figures are not statistically significantly different, which means that these estimates support each other. With respect to individual vaccines, the KRS estimate of DTP(4+) coverage is slightly higher and the KRS estimate of MMR(1+) is slightly lower. Other estimates are not significantly different.

Enclosed is a full set of tables showing the 2003 KRS results. Tables 1-4 compare results from 2001-2003 KRS. Table 5 is a comparison of estimates reported by NIS and KRS. Table 6 shows immunization levels by race/ethnicity and vaccine. Table 7 compares immunization levels by region and vaccine. Table 8 shows 4:3:1 coverage levels by race/ethnicity and region. Table 9 compares immunization levels of children by race/ethnicity and age checkpoint. Tables 10-11 provide immunization coverage information specific to birthplace and type of record presented, respectively. Table 12-15 are confidence intervals for Tables 1-4. Figures 1-4 are graphic representations of the data in Tables 1-4. The regional tables provide immunization levels of children by race/ethnicity and age checkpoint for each region.

For further information, please contact Nadine Wei at (510)540-2993 or Nwei@dhs.ca.gov, or Madina Sharifi at (510)540-3147 or MSharifi@dhs.ca.gov at the Department of Health Services, Immunization Branch.

**KINDERGARTEN RETROSPECTIVE SURVEY
CALIFORNIA, 2003**

TABLE 1: IMMUNIZATION LEVELS OF CALIFORNIA KINDERGARTENERS AT 24 MONTHS OF AGE BY VACCINE, 2001-2003

VACCINE	2001 N = 2,306	2002 N = 2,268	2003 N = 2,475
4 DTP, 3 Polio, & 1 MMR	70.8%	71.9%	71.4%
DTP (4+)	76.6%	78.1%	79.4%
Polio (3+)	90.5%	92.1%	91.3%
MMR (1+)	84.7%	85.6%	85.7%
Hep B (3+)	83.5%	86.3%	88.2%
Var (1+)	--	53.9%	64.6%
Hib (1+)	78.5%	79.0%	82.7%

TABLE 2: 4:3:1 COVERAGE LEVELS OF CALIFORNIA KINDERGARTENERS AT 24 MONTHS OF AGE BY RACE/ETHNICITY, 2001-2003

RACE/ETHNICITY	2001		2002		2003	
	Number	Percent	Number	Percent	Number	Percent
ALL RACES	2,306	70.8%	2,268	71.9%	2,475	71.4%
White	733	72.2%	651	72.5%	818	74.7%
Hispanic	1,016	71.0%	1,170	71.9%	1,101	70.2%
African-American	187	58.3%	106	64.2%	144	54.9%
Asian	232	76.7%	241	76.4%	149	71.1%
Other	43	55.8%	47	66.0%	156	76.3%
Unknown	95	74.7%	53	66.0%	107	73.8%

TABLE 3: 4:3:1 COVERAGE LEVELS OF CALIFORNIA KINDERGARTENERS AT 24 MONTHS OF AGE BY REGION, 2001-2003

REGIONS	2001		2002		2003	
	Number	Percent	Number	Percent	Number	Percent
ALL REGIONS	2,306	70.8%	2,268	71.9%	2,475	71.4%
Los Angeles	663	69.7%	624	72.4%	610	73.6%
Other So. California	654	69.7%	702	71.4%	688	73.8%
SF Bay Area	445	77.3%	373	78.6%	383	72.6%
Central Coast	126	67.5%	172	69.2%	162	69.8%
Central Valley	168	69.1%	126	69.1%	251	66.9%
North Central Valley	159	62.9%	149	69.1%	242	63.2%
Rural No. California	91	75.8%	122	62.3%	139	70.5%

TABLE 4: IMMUNIZATION LEVELS OF CALIFORNIA KINDERGARTENERS BY AGE CHECKPOINT, 2001-2003

AGE CHECKPOINT	2001 N = 2,306	2002 N = 2,268	2003 N = 2,475
3 months	82.0%	84.8%	84.4%
7 months	58.2%	62.0%	63.8%
12 months	84.8%	86.3%	86.4%
19 months	58.1%	60.0%	58.8%
24 months	70.8%	71.9%	71.4%
36 months	79.3%	80.9%	80.7%

**KINDERGARTEN RETROSPECTIVE SURVEY
CALIFORNIA, 2003**

TABLE 5: COMPARISON OF KINDERGARTEN RETROSPECTIVE SURVEY (KRS) AND NATIONAL IMMUNIZATION SURVEY (NIS) RESULTS¹

VACCINE	1997 NIS ² (19 to 35 mo.)	2001 KRS (27.5 mo.)	1998 NIS ² (19 to 35 mo.)	2002 KRS (27.5 mo.)	1999 NIS ² (19 to 35 mo.)	2003 KRS (27.5 mo.)
4 DTP, 3 P., & 1 MMR	76.2% (72.5-79.9)	74.8% (73.0 - 76.6)	77.7% (74.0 - 81.4)	76.8% (75.1 - 78.6)	78.3% (74.8 - 81.8)	76.6% (74.9 - 78.3)
DTP (4+)	79.0%	81.3%	81.6%	83.6%	81.3%	84.7%
Polio (3+)	90.0%	92.1%	88.4%	94.0%	91.1%	93.0%
MMR (1+)	88.8%	86.8%	91.2%	87.7%	92.8%	87.4%
Hep B (3+)	81.2%	85.1%	87.1%	87.9%	87.9%	89.3%
Var (1+)	33.4%	--	55.2%	58.6%	69.7%	68.1%

1. Kindergarteners in this year's sample were approximately 2 years old in 1999. The KRS approximates the NIS's sample age range (19 to 35 months old) by using the median age which is 27.5 months.

2. CDC National Immunization Survey, retrieved from <http://www.cdc.gov/nip/coverage>

KINDERGARTEN RETROSPECTIVE SURVEY

CALIFORNIA, 2003

TABLE 6: IMMUNIZATION LEVELS OF CALIFORNIA KINDERGARTENERS¹ AT 24 MONTHS OF AGE BY RACE/ETHNICITY AND VACCINE

RACE/ETHNICITY (N) % of total	4 DTP, 3 P., 1 MMR	DTP (4+)	Polio (3+)	MMR (1+)	Hep B (3+)	Var (1+)	Hib (1+)
ALL RACES (2,475) ² 100.0%	71.4%	79.4%	91.3%	85.7%	88.2%	64.6%	82.7%
White (818) 33.1%	74.7%	82.4%	90.5%	88.6%	90.7%	62.4%	87.9%
Hispanic (1,101) 44.5%	70.2%	77.9%	92.5%	84.5%	86.4%	66.1%	80.5%
African American (144) 5.8%	54.9%	63.9%	81.3%	79.2%	81.9%	62.5%	75.7%
Asian (149) 6.0%	71.1%	83.2%	92.0%	82.6%	89.9%	68.5%	79.2%
Other (156) 6.3%	76.3%	85.3%	94.9%	85.9%	91.7%	71.2%	78.2%
Unknown (107) 4.3%	73.8%	79.4%	92.5%	87.9%	88.8%	54.2%	86.9%

1. Born in 1997

2. Sample includes 46 children with personal belief exemptions and 8 children with permanent medical exemptions

KINDERGARTEN RETROSPECTIVE SURVEY
CALIFORNIA, 2003

TABLE 7: IMMUNIZATION LEVELS OF CALIFORNIA KINDERGARTENERS¹ AT 24 MONTHS OF AGE BY REGION AND VACCINE

REGION (N) % of total	4 DTP, 3 P., 1 MMR	DTP (4+)	Polio (3+)	MMR (1+)	Hep B (3+)	Var (1+)	Hib (1+)
ALL REGIONS (2,475) ² 100.0%	71.4%	79.4%	91.3%	85.7%	88.2%	64.6%	82.7%
Los Angeles (610) 24.6%	73.6%	81.0%	91.3%	86.2%	89.0%	62.4%	80.3%
Other So. California (688) 27.8%	73.8%	81.7%	91.9%	87.7%	89.7%	66.1%	83.1%
SF Bay Area (383) 15.5%	72.6%	81.5%	92.7%	86.7%	90.3%	62.5%	74.7%
Central Coast (162) 6.5%	69.8%	80.3%	92.6%	85.2%	86.4%	68.5%	92.0%
Central Valley (251) 10.1%	66.9%	75.3%	89.6%	82.9%	85.7%	68.5%	86.1%
North Central Valley (242) 9.8%	63.2%	71.5%	88.4%	80.6%	83.5%	71.2%	88.4%
Rural No. California (139) 5.6%	70.5%	76.3%	90.7%	84.9%	86.3%	54.2%	86.3%

1. Born in 1997

2. Sample includes 46 children with personal belief exemptions and 8 children with permanent medical exemptions

3. Regions do not exactly match Field Rep assigned regions

REGION ³	COUNTIES
Los Angeles	Los Angeles
Other So. California	Imperial, Orange, Riverside, San Bernardino, San Diego
SF Bay Area	Alameda, Contra Costa, Marin, Napa, San Francisco, San Mateo, Santa Clara, Solano, Sonoma
Central Coast	Monterey, San Luis Obispo, Santa Barbara, Santa Cruz, Ventura
Central Valley	Fresno, Kern, Kings, Madera, Merced, Tulare
North Central Valley	Sacramento, San Joaquin, Stanislaus
Rural No. California	Alpine, Amador, Butte, Calaveras, Colusa, Del Norte, El Dorado, Glenn, Humboldt, Inyo, Lake, Lassen, Mariposa, Mendocino, Modoc, Mono, Nevada, Placer, Plumas, San Benito, Shasta, Sierra, Siskiyou, Sutter, Tehama, Trinity, Tuolumne, Yolo, Yuba

KINDERGARTEN RETROSPECTIVE SURVEY
CALIFORNIA, 2003

TABLE 8: 4:3:1 COVERAGE LEVELS OF CALIFORNIA KINDERGARTENERS¹ AT 24 MONTHS OF AGE BY RACE/ETHNICITY AND REGION

RACE/ETHNICITY (N) % of total	ALL REGIONS ² (N =2,475)	LA Co. (610)	Other So. Cal. (688)	SF Bay Area (383)	Central Coast (162)	Central Valley (251)	No. Central Valley (242)	Rural No. Cal. (139)
ALL RACES (2,475) ² 100.0%	71.4%	73.6%	73.8%	72.6%	69.8%	66.9%	63.2%	70.5%
White (818) 33.1%	74.7%	74.3%	78.6%	76.9%	70.9%	70.0%	62.8%	69.9%
Hispanic (1,101) 44.5%	70.2%	73.8%	71.7%	70.4%	75.5%	63.9%	63.3%	73.8%
African American (144) 5.8%	54.9%	60.5%	56.5%	46.4%	n/a ³	n/a ³	n/a ³	n/a ³
Asian (149) 6.0%	71.1%	76.8%	71.4%	n/a ³	n/a ³	n/a ³	n/a ³	n/a ³
Other & Unkn. (263) 10.6%	75.3%	77.4%	72.2%	77.8%	n/a ³	n/a ³	n/a ³	n/a ³

1. Born in 1997

2. Sample includes 46 children with personal belief exemptions and 8 children with permanent medical exemptions

3. Percents are not calculated on a base of fewer than 25 children

4. Regions do not exactly match Field Rep assigned regions

REGION*	COUNTIES
Los Angeles	Los Angeles
Other So. Cal.	Imperial, Orange, Riverside, San Bernardino, San Diego
SF Bay Area	Alameda, Contra Costa, Marin, Napa, San Francisco, San Mateo, Santa Clara, Solano, Sonoma
Central Coast	Monterey, San Luis Obispo, Santa Barbara, Santa Cruz, Ventura
Central Valley	Fresno, Kern, Kings, Madera, Merced, Tulare
No. Central Valley	Sacramento, San Joaquin, Stanislaus
Rural No. Cal.	Alpine, Amador, Butte, Calaveras, Colusa, Del Norte, El Dorado, Glenn, Humboldt, Inyo, Lake, Lassen, Mariposa, Mendocino, Modoc, Mono, Nevada, Placer, Plumas, San Benito, Shasta, Sierra, Siskiyou, Sutter, Tehama, Trinity, Tuolumne, Yolo, Yuba

KINDERGARTEN RETROSPECTIVE SURVEY
CALIFORNIA, 2003

TABLE 9: IMMUNIZATION LEVELS OF CALIFORNIA KINDERGARTENERS¹ BY RACE/ETHNICITY AND AGE CHECKPOINT

RACE/ETHNICITY (N) % of total	3 mo. 1 DTP, 1 Polio	6 mo. ² 1 DTP, 1 Polio	7 mo. 3 DTP, 2 Polio	12 mo. 3 DTP, 2 Polio	19 mo. 4 DTP, 3 P., 1 MMR	UTD at all checkpts ³	24 mo 4 DTP, 3 P., 1 MMR	27.5 mo. ⁴ 4 DTP, 3 P., 1 MMR	36 mo. 4 DTP, 3 P., 1 MMR
ALL RACES (2,475) ⁵ 100.0%	84.4%	96.0%	63.8%	86.4%	58.8%	43.9%	71.4%	76.6%	80.7%
White (818) 33.1%	87.4%	95.7%	70.4%	89.0%	62.1%	50.4%	74.7%	80.1%	83.9%
Hispanic (1,101) 44.5%	83.7%	96.6%	59.6%	85.0%	57.0%	39.7%	70.2%	75.8%	80.3%
African American (144) 5.8%	76.4%	91.7%	47.2%	72.2%	43.1%	29.9%	54.9%	60.4%	68.8%
Asian (149) 6.0%	81.2%	97.3%	69.8%	89.9%	61.1%	47.7%	71.1%	73.2%	75.2%
Other (156) 6.3%	90.4%	98.7%	70.5%	93.0%	65.4%	51.3%	76.3%	79.5%	82.7%
Unknown (107) 4.3%	75.7%	90.7%	61.7%	86.0%	60.8%	41.1%	73.8%	80.4%	81.3%

1. Born in 1997

2. If a child has 1 polio or 1 DTP at this checkpoint, they have begun their IZ series early enough to potentially be up-to-date by the 24 month checkpoint.

3. UTD stands for up-to-date.

4. CDC's National Immunization Survey includes all children in the age range 19 through 35 mos. A retrospective survey can approximate that sampling scheme by using the median age which is 27.5 months.

5. Sample includes 46 children with personal belief exemptions and 8 children with permanent medical exemptions

KINDERGARTEN RETROSPECTIVE SURVEY
CALIFORNIA, 2003

TABLE 10: 4:3:1 COVERAGE LEVELS OF CALIFORNIA KINDERGARTENERS¹ AT 24 MONTHS OF AGE BY BIRTHPLACE AND ETHNICITY

BIRTHPLACE (N=Sample Size)	TOTAL	Non-Hispanic (N)	Hispanic (N)	Unknown (N)
ALL Birthplaces (2,475) ²	71.4%	72.8% (1,334)	70.2% (1,101)	57.5% (40)
SAME COUNTY (1,366)	75.3%	76.0% (666)	75.3% (683)	n/a ³ (17)
OTHER CA (384)	70.1%	71.2% (215)	68.9% (161)	n/a ³ (8)
OTHER US (111)	65.8%	64.4% (90)	n/a ³ (19)	n/a ³ (2)
MEXICO (82)	32.9%	n/a ³ (1)	32.5% (80)	n/a ³ (1)
OTHER FOREIGN (55)	52.7%	60.5% (43)	n/a ³ (12)	n/a ³ (0)
UNKNOWN (477)	71.3%	71.5% (319)	71.2% (146)	n/a ³ (12)

1. Born in 1997

2. Sample includes 46 children with personal belief exemptions and 8 children with permanent medical exemptions

3. Percents are not calculated on a base of fewer than 25 children

TABLE 11: TYPE OF IMMUNIZATION RECORD PRESENTED AT KINDERGARTEN ENTRY

RECORD TYPE	Number	Percent
TOTAL	2,475	100.0%
California Immunization Record (CIR)	1,661	67.1%
Other Immunization Record	292	11.8%
Out-of-State School Record	33	1.3%
Medical Record	38	1.5%
Child Helath and Disability Prevention (CHDP) form	56	2.3%
Other	12	0.5%
Not stated	383	15.5%

KINDERGARTEN RETROSPECTIVE SURVEY
CALIFORNIA, 2003

TABLES 12-15: 95% CONFIDENCE INTERVALS FOR TABLES 1-4

TABLE 12: IMMUNIZATION LEVELS OF CALIFORNIA KINDERGARTENERS AT 24 MONTHS OF AGE BY VACCINE, 2003

VACCINE	Percent	95% Confidence Interval
4 DTP, 3 Polio, & 1 MMR	71.4%	69.6 - 73.2
DTP (4+)	79.4%	77.8 - 81.0
Polio (3+)	91.3%	90.2 - 92.4
MMR (1+)	85.7%	84.3 - 87.1
Hep B (3+)	88.2%	86.9 - 89.5
Var (1+)	64.6%	62.7 - 66.5
Hib (1+)	82.7%	81.2 - 84.2

TABLE 13: 4:3:1 COVERAGE LEVELS OF CALIFORNIA KINDERGARTENERS AT 24 MONTHS OF AGE BY RACE/ETHNICITY, 2003

RACE/ETHNICITY	Percent	95% Confidence Interval
ALL RACES	71.4%	69.6 - 73.2
White	74.7%	71.7 - 77.7
Hispanic	70.2%	67.5 - 72.9
African-American	54.9%	46.8 - 63.0
Asian	71.1%	63.8 - 78.4
Other	76.3%	69.6 - 83.0
Unknown	73.8%	65.5 - 82.1

TABLE 14: 4:3:1 COVERAGE LEVELS OF CALIFORNIA KINDERGARTENERS AT 24 MONTHS OF AGE BY REGION, 2003

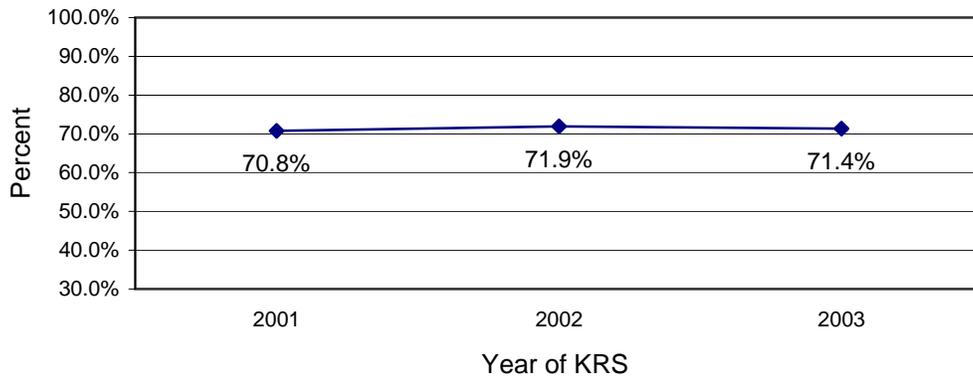
REGIONS	Percent	95% Confidence Interval
ALL REGIONS	71.4%	69.6 - 73.2
Los Angeles	73.6%	70.1 - 77.1
Other So. California	73.8%	70.6 - 77.1
SF Bay Area	72.6%	68.1 - 77.1
Central Coast	69.8%	62.7 - 76.8
Central Valley	66.9%	61.1 - 72.8
North Central Valley	63.2%	57.1 - 69.3
Rural No. California	70.5%	62.9 - 78.1

TABLE 15: IMMUNIZATION LEVELS OF CALIFORNIA KINDERGARTENERS BY AGE CHECKPOINT, 2003

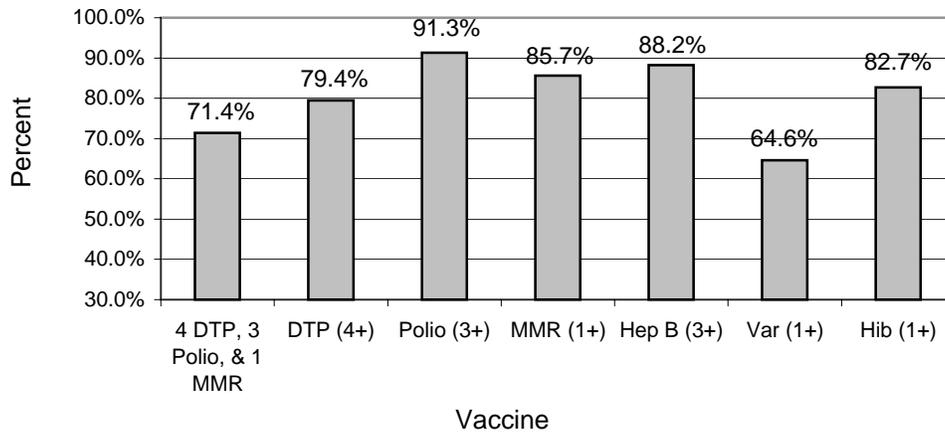
AGE CHECKPOINT	Percent	95% Confidence Interval
3 months	84.4%	83.0 - 85.8
7 months	63.8%	62.0 - 65.7
12 months	86.4%	85.1 - 87.8
19 months	58.8%	56.9 - 60.7
24 months	71.4%	69.6 - 73.2
36 months	80.7%	79.1 - 82.3

**KINDERGARTEN RETROSPECTIVE SURVEY
CALIFORNIA, 2003**

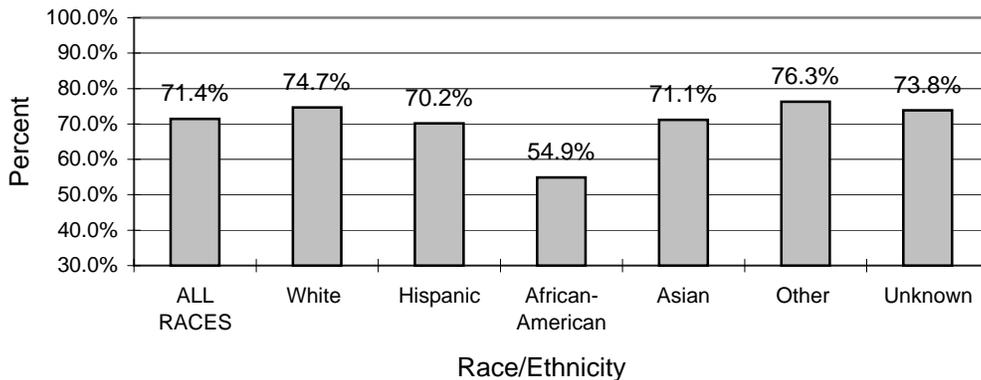
**FIGURE 1a: 4:3:1 COVERAGE LEVELS OF CALIFORNIA
KINDERGARTENERS AT 24 MONTHS OF AGE, 2001-2003**



**FIGURE 1b: IMMUNIZATION LEVELS OF CALIFORNIA
KINDERGARTENERS AT 24 MONTHS OF AGE BY VACCINE, 2003**

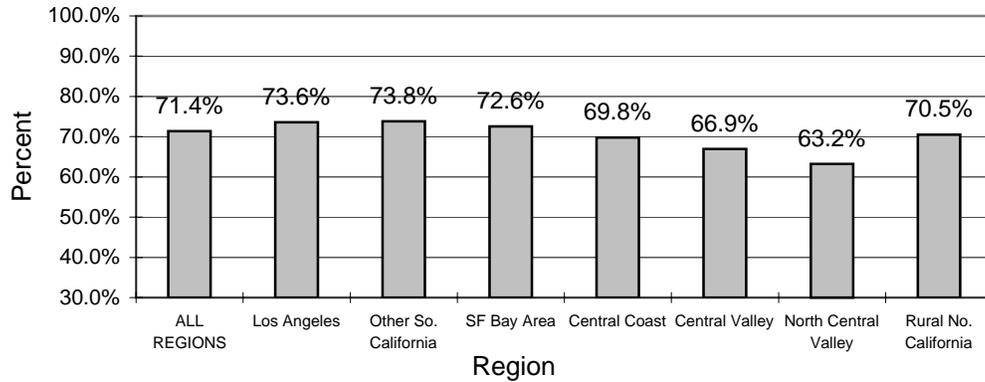


**FIGURE 2: 4:3:1 COVERAGE LEVELS OF CALIFORNIA
KINDERGARTENERS AT 24 MONTHS OF AGE BY RACE, 2003**

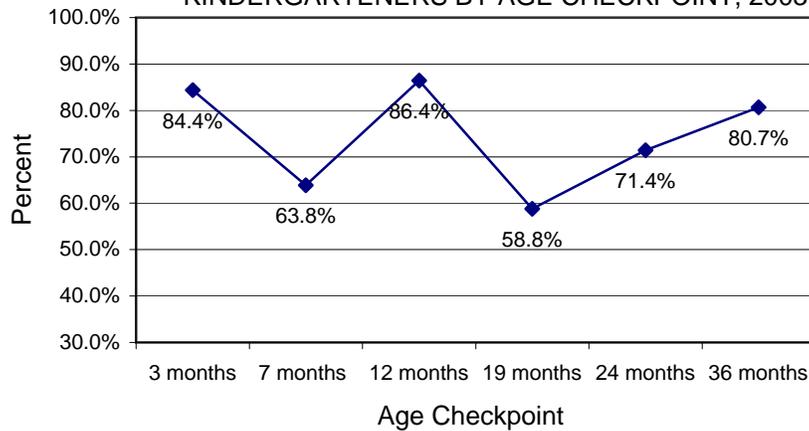


**KINDERGARTEN RETROSPECTIVE SURVEY
CALIFORNIA, 2003**

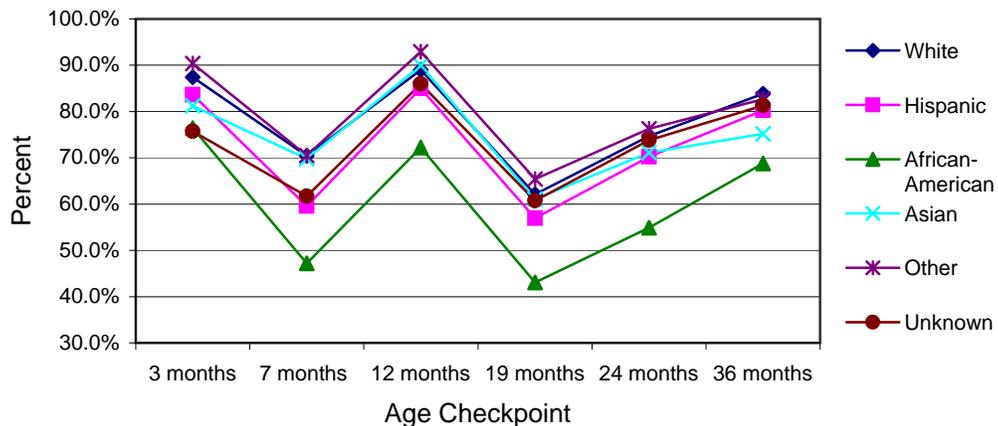
**FIGURE 3: 4:3:1 COVERAGE LEVELS OF CALIFORNIA
KINDERGARTNERS AT 24 MONTHS OF AGE BY REGION, 2003**



**FIGURE 4a: IMMUNIZATION LEVELS OF CALIFORNIA
KINDERGARTNERS BY AGE CHECKPOINT, 2003**



**FIGURE 4b: IMMUNIZATION LEVELS OF CALIFORNIA
KINDERGARTNERS BY RACE AND AGE CHECKPOINT, 2003**



KINDERGARTEN RETROSPECTIVE SURVEY
CALIFORNIA, 2003

REGIONAL TABLES: IMMUNIZATION LEVELS OF LOS ANGELES COUNTY KINDERGARTENERS¹ BY RACE/ETHNICITY AND AGE CHECKPOINT

RACE (N)	3 mo. 1 DTP, 1 Polio	7 mo. 3 DTP, 2 Polio	12 mo. 3 DTP, 2 Polio	19 mo. 4 DTP, 3 P., 1 MMR	UTD at all checkpts	24 mo. 4 DTP, 3 P., 1 MMR	36 mo. 4 DTP, 3 P., 1 MMR
ALL RACES (610) ²	84.1%	65.9%	86.7%	60.3%	45.7%	73.6%	81.5%
White (113)	89.4%	74.3%	92.0%	60.2%	50.4%	74.3%	84.1%
Hispanic (332)	81.9%	60.2%	84.6%	59.0%	41.0%	73.8%	83.1%
African American (43)	81.4%	55.8%	76.7%	46.5%	32.6%	60.5%	67.4%
Asian (69)	88.4%	81.2%	95.7%	66.7%	59.4%	76.8%	78.3%
Other (27)	92.6%	70.4%	85.2%	66.7%	55.6%	74.1%	77.8%
Unknown (26)	73.1%	73.1%	84.6%	76.9%	61.5%	80.8%	84.6%

1. Born in 1997

2. LA County sample represents 24.6% of state's total sample and includes 7 children with exemptions

KINDERGARTEN RETROSPECTIVE SURVEY
CALIFORNIA, 2003

REGIONAL TABLES: IMMUNIZATION LEVELS OF OTHER SO. CALIFORNIA KINDERGARTENERS¹ BY RACE/ETHNICITY AND AGE CHECKPOINT
(Imperial Co., Orange Co., Riverside Co., San Bernardino Co., San Diego Co.)

RACE (N)	3 mo. 1 DTP, 1 Polio	7 mo. 3 DTP, 2 Polio	12 mo. 3 DTP, 2 Polio	19 mo. 4 DTP, 3 P., 1 MMR	UTD at all checkpts	24 mo. 4 DTP, 3 P., 1 MMR	36 mo. 4 DTP, 3 P., 1 MMR
ALL RACES (688) ²	86.1%	63.2%	86.3%	61.3%	45.4%	73.8%	81.0%
White (313)	89.5%	68.7%	89.5%	64.9%	51.4%	78.6%	84.0%
Hispanic (265)	83.0%	58.5%	82.6%	60.4%	39.6%	71.7%	80.8%
African American (46)	78.3%	50.0%	78.3%	43.5%	30.4%	56.5%	65.2%
Asian (28)	78.6%	60.7%	85.7%	60.7%	50.0%	71.4%	75.0%
Other (28)	96.4%	75.0%	96.4%	64.3%	53.6%	75.0%	82.1%

1. Born in 1997

2. Other So. Cal Co. sample represents 27.8% of state's total sample and includes 23 children with exemptions. Percents are not calculated on a base of fewer than 25 children, so coverage rates are not available for the Unknown group.

KINDERGARTEN RETROSPECTIVE SURVEY
CALIFORNIA, 2003

REGIONAL TABLES: IMMUNIZATION LEVELS OF SF BAY AREA KINDERGARTENERS¹ BY RACE/ETHNICITY AND AGE CHECKPOINT
(Alameda Co., Contra Costa Co., Marin Co., Napa Co., San Francisco Co., San Mateo Co., Santa Clara Co., Solano Co., Sonoma Co.)

RACE (N)	3 mo. 1 DTP, 1 Polio	7 mo. 3 DTP, 2 Polio	12 mo. 3 DTP, 2 Polio	19 mo. 4 DTP, 3 P., 1 MMR	UTD at all checkpts	24 mo. 4 DTP, 3 P., 1 MMR	36 mo. 4 DTP, 3 P., 1 MMR
ALL RACES (383) ²	86.7%	69.5%	90.1%	58.8%	45.2%	72.6%	83.6%
White (130)	86.9%	75.4%	93.1%	65.4%	53.1%	76.9%	86.9%
Hispanic (108)	90.7%	68.5%	90.7%	50.9%	40.7%	70.4%	81.5%
African American (28)	71.4%	32.1%	60.7%	39.3%	21.4%	46.4%	71.4%
Other (80)	91.3%	75.0%	97.5%	68.8%	53.8%	78.8%	85.0%

1. Born in 1997

2. SF Bay Area sample represents 15.5% of state's total sample and includes 5 children with exemptions. Percents are not calculated on a base of fewer than 25 children, so coverage rates are not available for the following groups: Asian and Unknown.

KINDERGARTEN RETROSPECTIVE SURVEY
CALIFORNIA, 2003

REGIONAL TABLES: IMMUNIZATION LEVELS OF CENTRAL COAST KINDERGARTENERS¹ BY RACE/ETHNICITY AND AGE CHECKPOINT
(Monterey Co., San Luis Obispo Co., Santa Barbara Co., Santa Cruz Co., Ventura Co.)

RACE (N)	3 mo. 1 DTP, 1 Polio	7 mo. 3 DTP, 2 Polio	12 mo. 3 DTP, 2 Polio	19 mo. 4 DTP, 3 P., 1 MMR	UTD at all checkpts	24 mo. 4 DTP, 3 P., 1 MMR	36 mo. 4 DTP, 3 P., 1 MMR
ALL RACES (162) ²	88.9%	72.8%	92.0%	58.0%	46.3%	69.8%	80.9%
White (86)	91.9%	77.9%	89.5%	62.8%	51.2%	70.9%	83.7%
Hispanic (49)	89.8%	67.4%	98.0%	63.3%	51.0%	75.5%	85.7%

1. Born in 1997

2. Central Coast sample represents 6.5% of the state's total sample and includes 5 children with exemptions. Percents are not calculated on a base of fewer than 25 children, so coverage rates are not available for the following groups: African American, Asian, Other and Unknown.

KINDERGARTEN RETROSPECTIVE SURVEY
CALIFORNIA, 2003

REGIONAL TABLES: IMMUNIZATION LEVELS OF CENTRAL VALLEY KINDERGARTENERS¹ BY RACE/ETHNICITY AND AGE CHECKPOINT
(Fresno Co., Kern Co., Kings Co., Madera Co., Merced Co., Tulare Co.)

RACE (N)	3 mo. 1 DTP, 1 Polio	7 mo. 3 DTP, 2 Polio	12 mo. 3 DTP, 2 Polio	19 mo. 4 DTP, 3 P., 1 MMR	UTD at all checkpts	24 mo. 4 DTP, 3 P., 1 MMR	36 mo. 4 DTP, 3 P., 1 MMR
ALL RACES (251) ²	76.9%	53.8%	82.9%	53.4%	35.9%	66.9%	78.5%
White (60)	78.3%	63.3%	80.0%	51.7%	43.3%	70.0%	86.7%
Hispanic (158)	79.1%	53.2%	84.8%	53.2%	33.5%	63.9%	74.7%

1. Born in 1997

2. Central Valley sample represents 10.1% of the state's total sample and includes 6 children with exemptions. Percents are not calculated on a base of fewer than 25 children, so coverage rates are not available for the following groups: African American, Asian, Other and Unknown.

**KINDERGARTEN RETROSPECTIVE SURVEY
CALIFORNIA, 2003**

REGIONAL TABLES: IMMUNIZATION LEVELS OF NO. CENTRAL VALLEY KINDERGARTENERS¹ BY RACE/ETHNICITY AND AGE CHECKPOINT
(Sacramento Co., San Joaquin Co., Stanislaus Co.)

RACE (N)	3 mo. 1 DTP, 1 Polio	7 mo. 3 DTP, 2 Polio	12 mo. 3 DTP, 2 Polio	19 mo. 4 DTP, 3 P., 1 MMR	UTD at all checkpts	24 mo. 4 DTP, 3 P., 1 MMR	36 mo. 4 DTP, 3 P., 1 MMR
ALL RACES (242) ²	81.0%	51.7%	78.5%	52.9%	35.5%	63.2%	75.6%
White (43)	79.1%	62.8%	79.1%	48.8%	39.5%	62.8%	79.1%
Hispanic (147)	83.7%	51.7%	80.3%	52.4%	35.4%	63.3%	75.5%

1. Born in 1997

2. North Central Valley sample represents 9.8% of the state's total sample and includes 1 child with an exemption. Percents are not calculated on a base of fewer than 25 children, so coverage rates are not available for the following groups: African American, Asian, Other and Unknown.

**KINDERGARTEN RETROSPECTIVE SURVEY
CALIFORNIA, 2003**

REGIONAL TABLES: IMMUNIZATION LEVELS OF NO. CENTRAL VALLEY KINDERGARTENERS¹ BY RACE/ETHNICITY AND AGE CHECKPOINT
(Sacramento Co., San Joaquin Co., Stanislaus Co.)

RACE (N)	3 mo. 1 DTP, 1 Polio	7 mo. 3 DTP, 2 Polio	12 mo. 3 DTP, 2 Polio	19 mo. 4 DTP, 3 P., 1 MMR	UTD at all checkpts	24 mo. 4 DTP, 3 P., 1 MMR	36 mo. 4 DTP, 3 P., 1 MMR
ALL RACES (242) ²	81.0%	51.7%	78.5%	52.9%	35.5%	63.2%	75.6%
White (43)	79.1%	62.8%	79.1%	48.8%	39.5%	62.8%	79.1%
Hispanic (147)	83.7%	51.7%	80.3%	52.4%	35.4%	63.3%	75.5%

1. Born in 1997

2. North Central Valley sample represents 9.8% of the state's total sample and includes 1 child with an exemption. Percents are not calculated on a base of fewer than 25 children, so coverage rates are not available for the following groups: African American, Asian, Other and Unknown.